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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,174	12/01/2003	Alan V. Andresen	J-NOV.1018	2058

7590 03/08/2005
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EXAMINER

FAULCON JR, LENWOOD

ART UNIT	PAPER NUMBER
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3762

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/725,174	Applicant(s) ANDRESEN ET AL.	
	Examiner Lenwood Faulcon, Jr.	Art Unit 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/1/2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Claims 5 and 9 are objected to because of the following informalities: Claims 5 and 9 use the term "STT" which is not defined within the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lander (U.S. Patent No. 5,827,195) in view of Selvester et al. (U.S. Patent No. 6,230,048).

Lander teaches of methods for electrocardiogram noise reduction using multi-dimensional filtering, which comprises altering the physiologic condition of a patient to stress the heart of the patient and creating an ECG signal representative of the activity (col. 1 lines 52-55). Lander further teaches of selecting a collection of beats from the ECG signal and transforming the beats into a multi-dimensional representation (model) (col. 1 lines 55-57). Lander also teaches of applying a multi-dimensional filter function to the multi-dimensional representation (col. 1 lines 57-60). Lander further teaches of using the methods to identify evidence of acute myocardial infarction (col. 4 lines 35-36).

It is inherent in the methods as taught by Lander that they may be aimed at removing the effect of an ECG confounder on the ST segment of the PQRST ECG waveform, since it is well known that that evidence of acute myocardial infarction can be obtained from the ST segment. It is also inherent in the methods as taught by Lander that the ECG confounder that is to be removed, may include a potential from any region of the heart (col. 1 lines 10-14).

Selvester et al. teaches of an electrocardiographic interpretation system and methods that use a computer-implemented system to interpret and display ECG input data (col. 1 lines 14-25). Selvester et al. further teaches that the system and methods may be used to identify selected heart conditions, such as myocardial infarcts (col. 1 lines 16-32). Selvester et al. also teaches that the system includes data input structure adapted to receive ECG data, a second input structure that includes predetermined rule sets and a data processing structure (col. 1 lines 66-67, col. 2 lines 1-9). Selvester et al. further teaches the system's rule sets containing created models of heart's conditions (col. 15 lines 65-68), which may include the presence of confounding conditions in the heart, such as a right bundle branch block (col. 16 lines 1-13).

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Lander and Selvester et al., to have a method for clarifying a collected ECG waveform that includes creating a model ECG waveform and using it in conjunction with an algorithm to remove various types of confounding influences in collected ECG data, since both teach of removing unwanted signals from an ECG signal by using known characteristics in combination with an algorithm. This

Art Unit: 3762

combination would have been obvious to one having ordinary skill in the art since both deal with the detection of myocardial infraction and acknowledge that there may be many confounding influences in ECG input data and the removal of such would improve the ability to identify the existence of myocardial infarctions.

Allowable Subject Matter

4. Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dingwall et al. (U.S. Patent No. 5,003,983), Luczyk (U.S. Patent No. 5,456,261), Karlsson et al. (U.S. Patent No. 6,038,469), Swanson et al. (U.S. Patent No. 6,101,409), Stadler et al. (U.S. Patent No. 6,115,628).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lenwood Faulcon, Jr. whose telephone number is 571-272-6090. The examiner can normally be reached on Monday-Thursday from 9 to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes, can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 3762

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).



Lenwood Faulcon, Jr.



George Manuel

Primary Examiner